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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,356	08/26/2003	Masakazu Yagi	12377/3	2227

7590   01/22/2007

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EXAMINER
LIEW, ALEX KOK SOON

ART UNIT	PAPER NUMBER
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

		Application No.	Applicant(s)
		10/647,356	YAGI ET AL.
Office Action Summary		Examiner	Art Unit	
		Alex Liew	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 August 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-14</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>26 August 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 13 is drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

"Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

"Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized."

Claim 13, while defining a "computer program product", does not define a "computer-readable medium" and is thus non-statutory for that reasons. A "computer program product" can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on "computer-readable medium" in order to make the claim statutory.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1 – 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yagi

(IEEE pub titled: "A Human-Perception-Like Image Recognition System Based on PAP

Vector Representation with Multi Resolution Concept").

With regards to claim 1, Yagi discloses an image processing device for processing an

image data of an inputted image and extracting semantic information contained in the

image data, the image processing device comprising

        a first unit having a plurality of pattern groups that contain at least one reference

pattern belonging to a predetermined class (see fig 4 and two paragraphs below fig 4 –

the system templates are the reference patterns, each indicating number '0' to '9')

        a second unit for extracting the image data of a region that is defined

corresponding to a predetermined position inside the inputted image (see fig 6 – upper

left corner of fig 6 shows the number '4' and a partial area of the image is extracted),

checking the image data with each of the reference patterns contained in each of the

pattern groups, and evaluating a similarity between each of the reference patterns and

the image data (see fig 6 – dissimilarity plot showing the dissimilarity between number

characters extracted from the partial image and the reference template images) and

a third unit for performing a predetermined calculation on each evaluation value

of the similarity to determine at least one evaluation value, identifying the class of the

reference pattern corresponding to the determined evaluation, and making the

evaluation value and the identified class of said reference pattern correspond to the

predetermined position (see section 4.1 – second paragraph lines 1 – 4 and see fig 6 –

the contour map identifies the location of the numbers '6,' '7,' and more within the partial

image according to the similarity values obtained).

With regards to claim 2, Yagi discloses an image processing device according to claim

1, wherein the evaluation value and the class are identified for each of a plurality of the

predetermined positions of the input image (see fig 6 – the plot of dissimilarity shows

the location of the number '6' and '7') and the evaluation value and the class are made

to correspond to the plurality of the predetermined positions to thereby create a

distribution map (see fig 6 – second half of fig 6).

With regards to claim 3, Yagi discloses an image-processing device according to claim

2, further comprising a fourth unit for creating a one-dimensional data row from the

distribution map from the distribution map, wherein said fourth unit performs a process

of adding the number of predetermined positions belonging to the same class in a

predetermined direction (see fig 2 – the one dimensional projection is lengthen when an

additional direction of the input pattern is inputted).

With regards to claim 4, Yagi discloses an image processing device according to claim 2, further comprising a fifth unit for creating a one-dimensional data row from the distribution map, wherein said fifth unit performs a process of adding the evaluation value that corresponds to the predetermined position belonging to the same class in a predetermined direction (see fig 2 – the one dimensional projection is lengthen when an additional direction of the input pattern is inputted).

With regards to claim 5, Yagi discloses an image processing device according to claim 1, wherein the plurality of the pattern groups are categorized in at least two categories, each of the pattern groups that belongs to a first category pattern groups that belongs to a first category serves to identify the evaluation value and the class at the predetermined position of the inputted image (see fig 6 – the position with the number character, which are identified are under the first category) and each of the pattern groups that belongs to a second category is given a meaning that, when each of the pattern groups is selected corresponding to the predetermined position of the inputted image, the reference pattern does not exist for the position (see fig 6 – the vacant area or transition area are patterns in the second category – there is no reference pattern that will match up with the vacant area).

With regards to claim 6, Yagi discloses an image processing device according to claim 1, further comprising a sixth unit for expressing a vector of the image data of the region that is defined corresponding to the predetermined position inside the inputted image,

wherein said second unit retains each of the reference patterns as a vector and checks

this vector with the vector of the image data to evaluate the similarity (see section 4.1

first paragraph – the template of the number '4' is expressed in vector form, this

template is use to compare with the input image).

With regards to claims 7, 13 and 14, see the rationale for claim 1. In addition, the

methods shown in Yagi must run in a computer, where it stores a program codes to run

the algorithms disclosed by Yagi.

With regards to claim 8, see the rationale and rejection for claim 2.

With regards to claim 9, see the rationale and rejection for claim 3.

With regards to claim 10, see the rationale and rejection for claim 4.

With regards to claim 11, see the rationale and rejection for claim 5.

With regards to claim 12, see the rationale and rejection for claim 6.

Relevant non-cited Art

Kimura (US pat no 5,287,275) discloses classifying words using similarity measures and

compares similarity measure with a reference patterns storing unit (see fig 3).
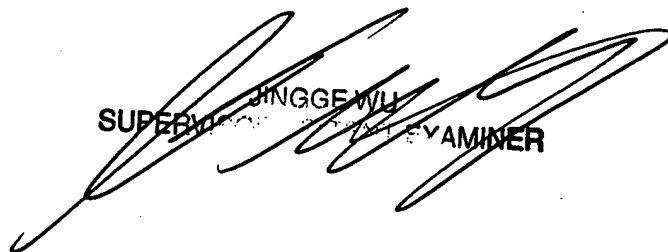
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623. The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alex Liew
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1/17/07

SUPERVISORY PATENT EXAMINER
JINGGE WU